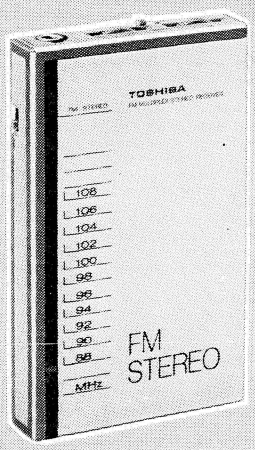
SERVICE DATA
FILE NO. 150-184

TOSHIBA

FM STEREO RECEIVER

RP-S5



SPECIFICATIONS			
Frequency range:	FM 88 – 108 MHz	Dimensions (W x H x D):	2-3/16 x 3-9/16 x 1/2"
Power requirements:	DC 3V, "AAA" cell x 2 pcs.	Weight:	2.8 oz. (Including batteries)
Power output:	30mW (max.)		
Jack:	Mini jack for stereo headphones (32 ohms)/earphone (8 ohms)		

Specifications are subject to change without notice.

TA, TC, YY

1. OPERATING CONTROLS

HEADPHONES JACK

Connect your stereo headphones (32 ohms) to this jack. The headphones cord now serves as the FM antenna and so should be extended for use. An ordinary earphone (8 ohms) may also be connected to this jack.

STEREO/MONO MODE SWITCH

This switch is normally set to the STEREO position.

STEREO: At this position stereo broadcasts are heard in stereo and monaural broadcasts in mono.

MONO: Set the switch here when noise prevents the stereo programs from being received clearly at the STEREO position. The stereo effect is lost but the sound can be heard more clearly.

FM STEREO INDICATOR

This lights up red when a stereo station is tuned in.

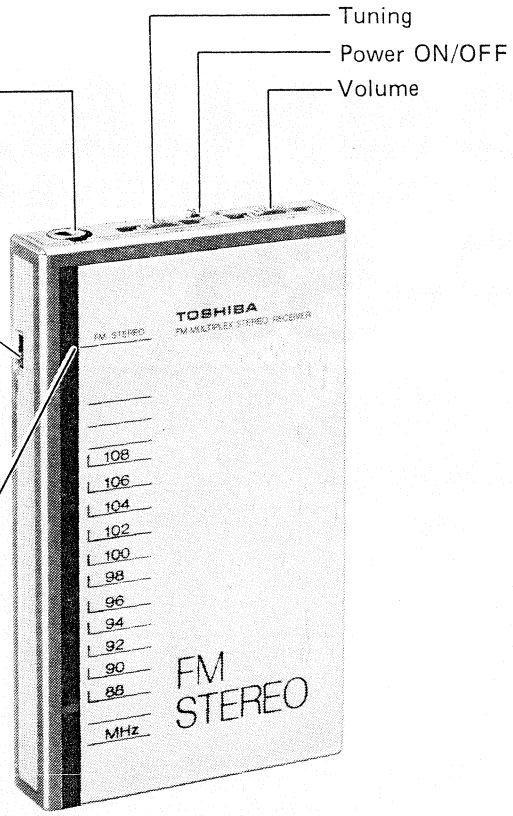


Figure 1.

2. DISASSEMBLY INSTRUCTIONS

1. BACK CABINET REMOVAL

1. Remove a screw (A) securing back cabinet.
2. Remove the back cabinet which is fixed to the front cabinet with 5 hooks in following order.
   1. Open the section (B) in the arrow direction and remove the hook (1).
   2. Open the section (C) in the arrow direction and remove the hook (2).
   3. Remove the hook (3) to detach the back cabinet.

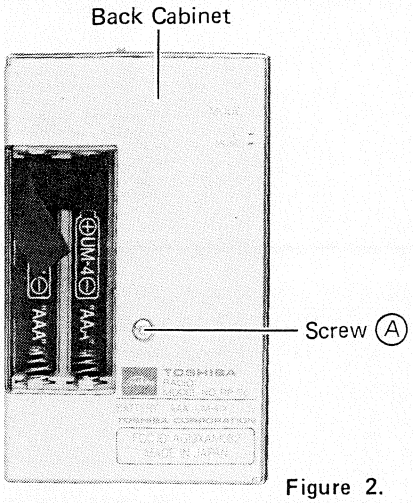


Figure 2.

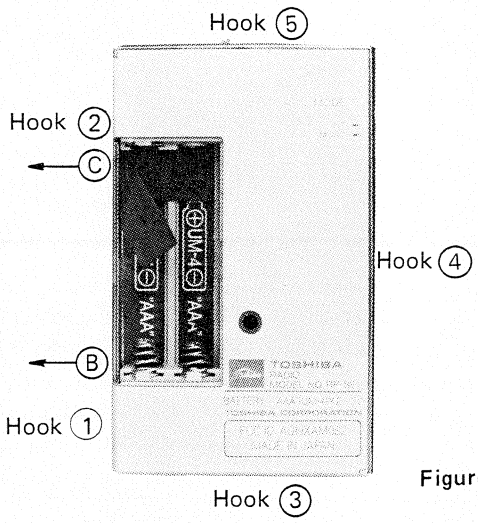


Figure 3.

2. HOW TO OPEN THE CHASSIS FRAME

1. Fix the section Ⓓ of dial drum with cellophane tape.
   Note: Secure the dial cord firmly so as not to be off from the drum.
2. Remove the nut Ⓔ.
3. Remove the hook Ⓕ.
4. Remove the hooks Ⓖ and Ⓗ to open the chassis frame.

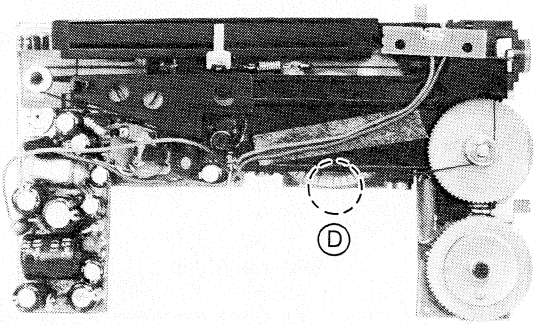


Figure 4.

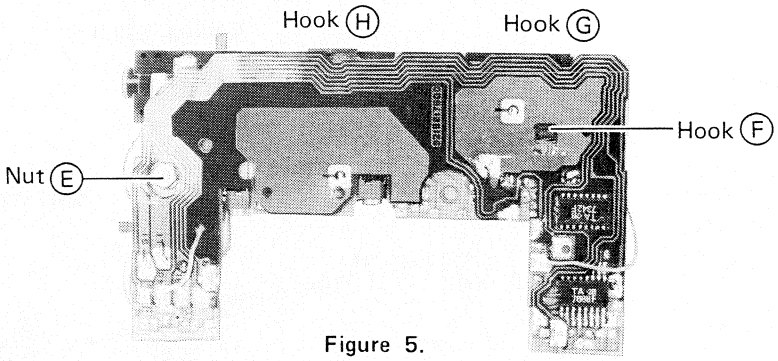
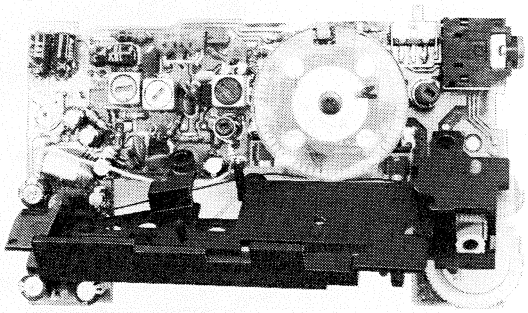


Figure 5.



Opened Chassis Frame

Figure 6.

3. DIAL CORD RESTRINGING

DIAL CORD STRINGING

1. Tie the dial cord to the spring and fix it with binding matter.
2. Hook the portion of the dial cord marked (1) to the drum and fix it with binding matter.
3. Wind the dial cord to the drum in 2 and 3 orders and fix it with cellophane tape temporarily.
4. Unite the frame with P.C. board.
5. Secure the tuning knob (with tuning shaft) with nut.
6. Wind the dial cord to the tuning knob 3 turns in the counterclockwise direction and wind further in order of 5, 6, 7.
7. Tie the portion marked (2) the hook of spring and fix it with binding matter.
8. Cut the unused dial cord.
9. Rotate the tuning knob fully counterclockwise (min. position)
10. After completing the step 9 aline the center of the pointer to the center of the mark, then fix it.

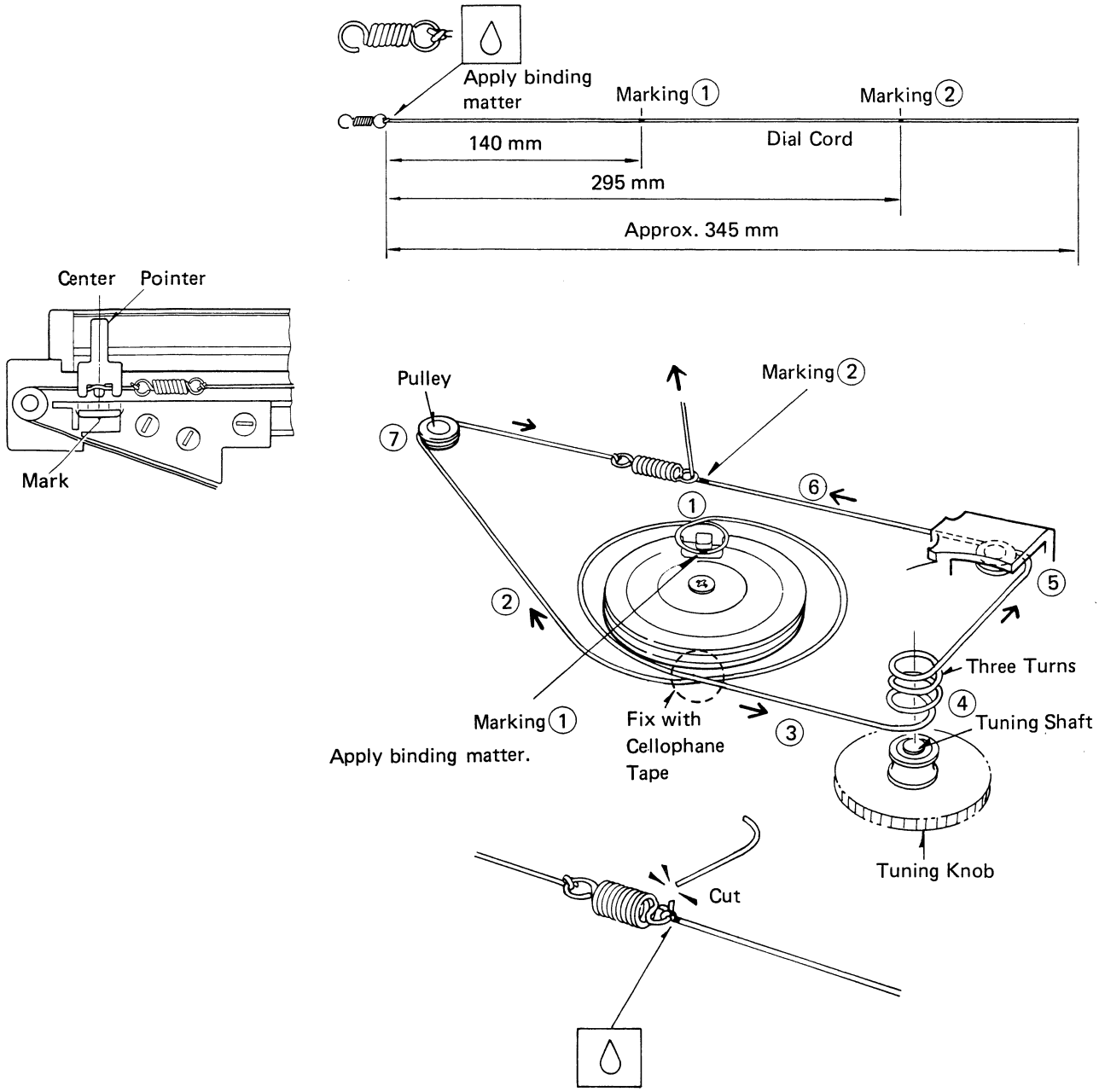


Figure 7. Apply binding matter

4. ALIGNMENT INSTRUCTIONS

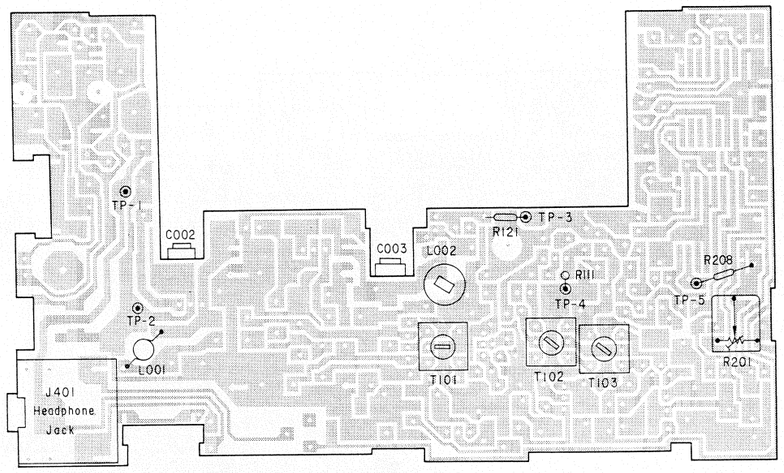


Figure 8. TOP VIEW

FM-IF ALIGNMENT

1. Turn on both sweep generator and oscilloscope, and allow a fifteen-minute warm-up period.
2. Connect the RF SWEEP SIGNAL OUTPUT from the signal generator through the loop antenna to the receiver.
3. Connect the oscilloscope vertical input directly to the test point TP-3 and connect the shielded lead to the test point TP-4 or chassis ground.
4. Connect the SWEEP VOLTAGE OUTPUT of the sweep generator to the oscilloscope.
5. Proceed as outlined in the FM-IF ALIGNMENT CHART.

FM-IF ALIGNMENT CHART

Step	Signal Coupling	Equip.	Tuning	Connection	Adjust. Point	Pattern
1	Connect sweep generator output to a three-turn loop antenna of 10cm diameter.	Sweep generator of 10.7 MHz center freq. with 10.7 MHz marker.	Tuning Knob fully counter-clockwise (Lowest Frequency.)	Set scope for connecting output signal from TUN-OUT to vertical axis of scope "V" and sweep generator output to horizontal axis "H".	T101 T102 T103	Turn the IF Transformer T103 fully counterclockwise to obtain a single peak. Fig. 10. Adjust the IF Transformer T101 and T102 in order until the best single peak is obtained. Fig. 10. Finally turn the IF Transformer T103 to obtain S curve. See Fig. 11.

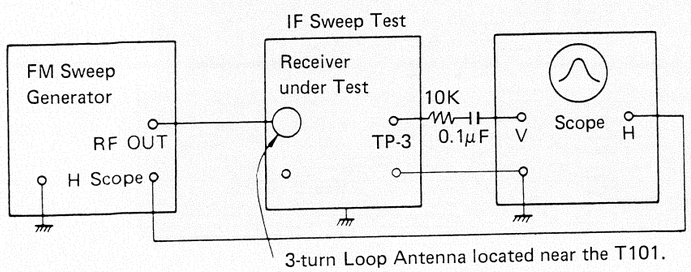


Figure 9.

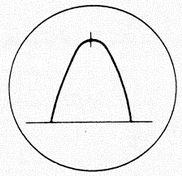


Figure 10.

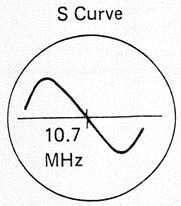


Figure 11.

FM-RF ALIGNMENT

1. Turn on the signal generator and the VTVM, and allow a fifteen-minute warm-up period.
2. Connect the signal generator output through a 75 ohm dummy antenna across FM ANT.
3. Connect the VTVM across the headphone jack.
4. Set the volume control to mid-position.
5. Adjust the signal generator frequency as indicated in FM-RF ALIGNMENT CHART, and maintain a sufficient signal output level to provide a measurable indication.
6. Proceed as outlined in the FM-RF ALIGNMENT CHART.
7. Since adjustment sometimes may not be made well when installing the P.C. board in the cabinet, repeat adjustment 2 or 3 times.

FM-RF ALIGNMENT CHART

Step	Signal Generator	Radio Dial Setting	Adjustment	Remarks
1	87.5 MHz	Tuning Knob fully Counterclockwise (Lowest Frequency)	OSC. Coil L002	Adjust for maximum output indication
2	108 MHz	Tuning Knob fully Clockwise (Highest Frequency)	OSC. Trim. C003	Adjust for maximum output indication
3	Repeat steps 1 and 2 as required.			
4	90 MHz	Tune to signal	Ant. Coil L001	Adjust for maximum output indication
5	106 MHz		Ant. Trim. C002	
6	Repeat steps 4 and 5 as required.			

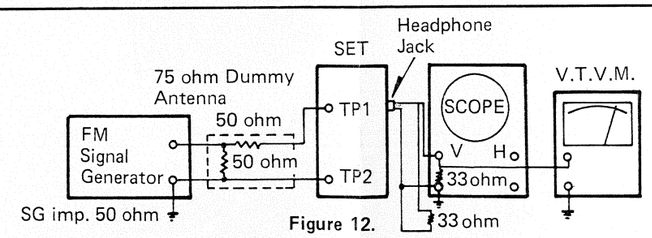


Figure 12.

FREE RUN FREQUENCY ALIGNMENT

Adjust R201 under no signal condition so as to obtain 76 kHz ± 150 Hz.

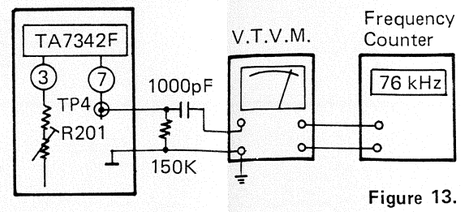


Figure 13.

CAUTION: When realigning the FM Receiving Frequency, the highest end of the frequency range should not be move than 108 MHz and the lowest end of the frequency range should not be less than 87.5 MHz, in order to comply with FTZ regulations in West Germany.

5. ELECTRICAL PARTS LOCATIONS

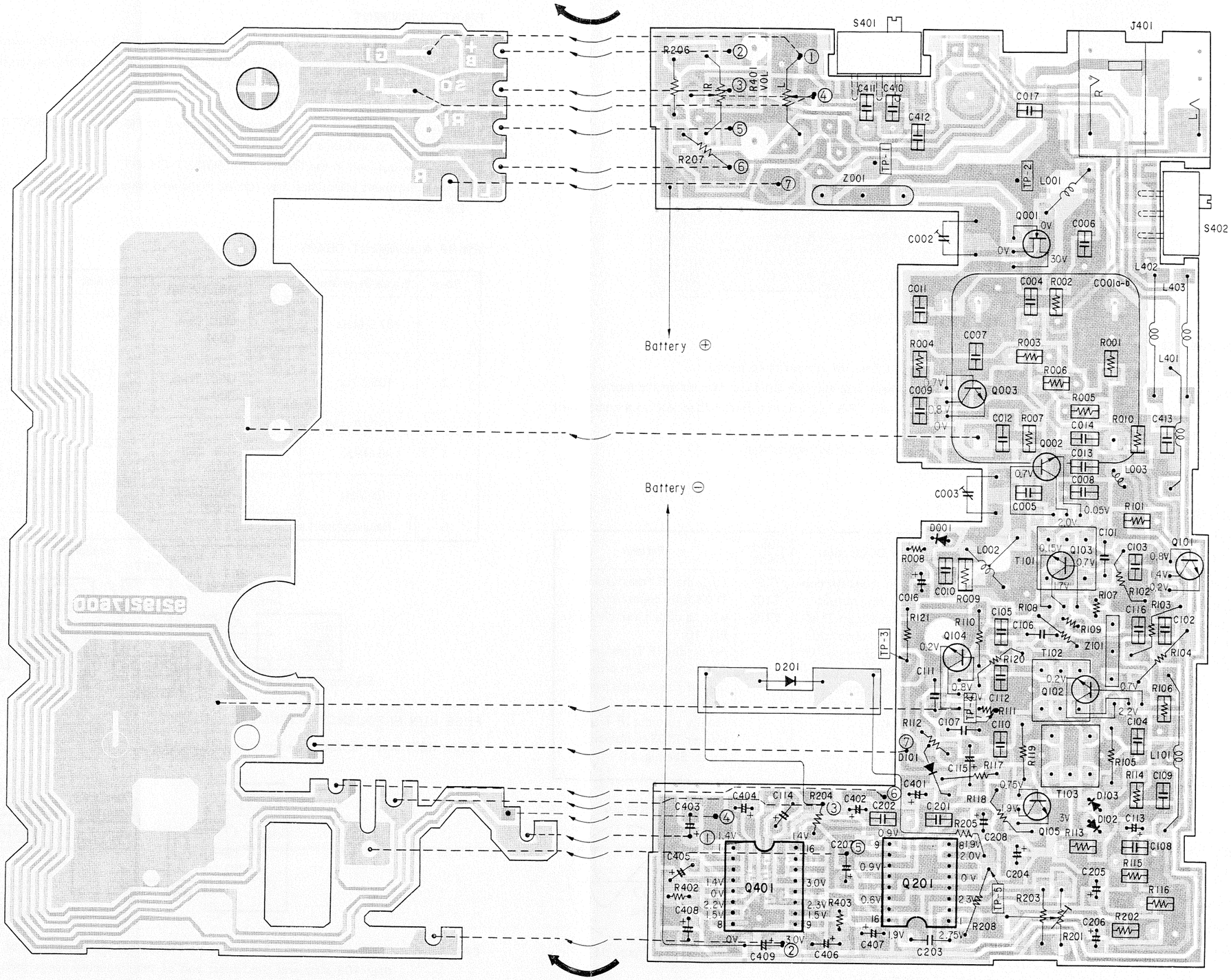
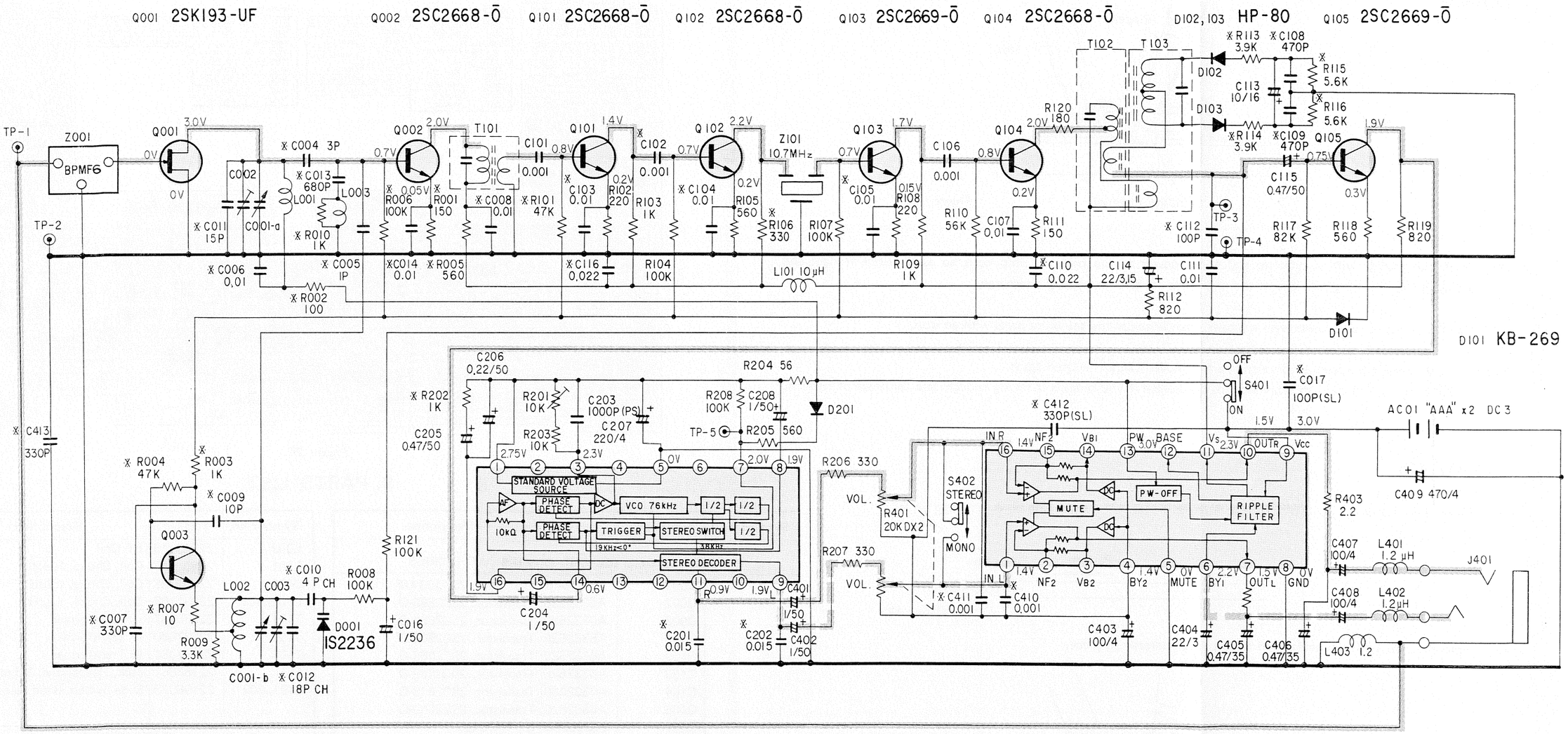


Figure 14.

6. SCHEMATIC DIAGRAM



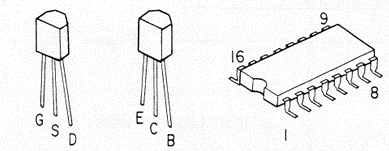
NOTE

1) All resistance values are indicated in ohms K=1000

2) All capacitance values are indicated in microfarads $P=\frac{1}{10^{12}}$

Electrolytic Capacitor indicates ▭ / ▭ — Working Voltage (V); Capacitance (μF)

3) Mark ※ indicates the chip parts



2SK193 2SC2668 2SC2669 TA7342F TA7688F

Figure 15.

7. CHIP PARTS REPLACEMENT

REMOVAL

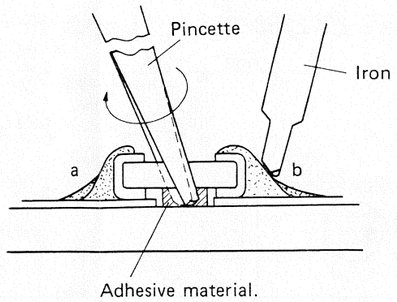


Figure 16.

(1) Pinch the center with a pincette and apply power to the body of chip parts so as to rotate it right and left with the soldering portions of the chip parts a and b heating alternately.

(2) Cut the center of chip parts with a nipper, then unsolder the soldering parts with an iron.

Note: No.2 is easiest procedure since the parts removed cannot be used again.
But mini mould transistor can after be used again if you remove it taking enough care for break of terminal.

INSTALLATION

(1) Clean the P.C. Board by taking off the adhesive material or soldering refuse remaining on it.

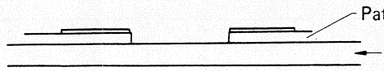


Figure 17.

(2) Hold the chip with a pincette and mount it temporarily in place.

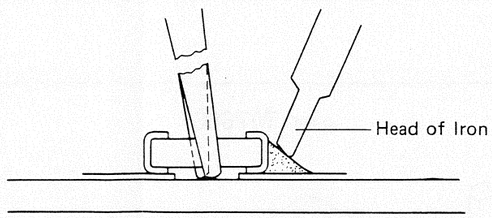


Figure 18.

(3) Solder both side (rapidly).

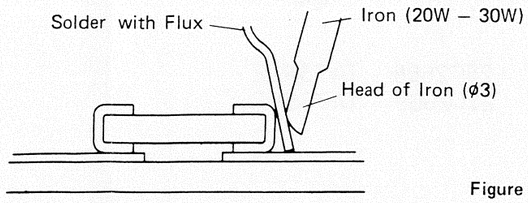


Figure 19.

8. CHIP PARTS LOCATIONS

Chip Capacitors

C004	3pF, 50V	C012	18pF, 50V
C005	1pF, 50V	C013	680pF, 50V
C006, 008, 014, 103, 104, 105	0.01mfd, 50V	C017, 112	100pF, 50V
		C102, 410, 411	0.001mfd, 50V
C007, 412, 413	330pF, 50V	C108, 109	470pF, 50V
C009	10pF, 50V	C110, 116	0.022mfd, 25V
C010	4pF, 50V	C201, 202	0.015mfd, 50V
C011	15pF, 50V		

Chip Resistors

R001	150 ohm	R106	330 ohm
R002	100 ohm	R113, 114	3.9K ohm
R003, 010, 202	1K ohm	R115, 116	5.6K ohm
R004, 101	47K ohm		
R005	560 ohm		
R006	100K ohm		
R007	10 ohm		
R009	3.3K ohm		

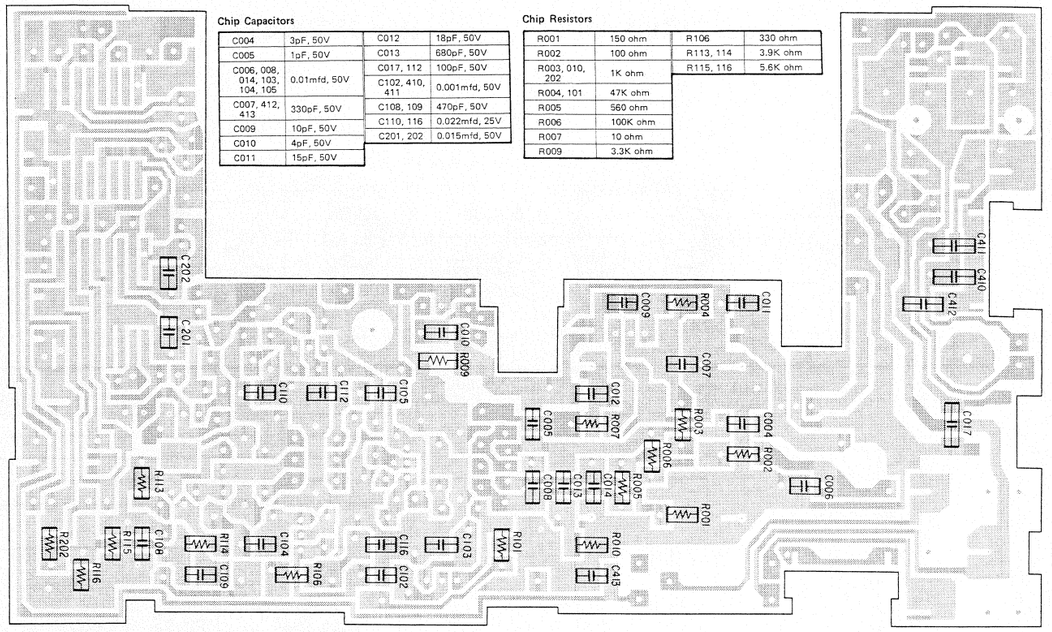


Figure 20.

9. PARTS LIST

Symbol No.	Part No.	Description
		TRANSISTORS, ICS AND DIODES
Q001	22117068	Transistor, 2SK193-UF
Q002	A6332530	Transistor, 2SC2668-O
Q003	A6332530	Transistor, 2SC2668-O
Q101	A6332530	Transistor, 2SC2668-O
Q102	A6332530	Transistor, 2SC2668-O
Q103	A6332620	Transistor, 2SC2669-O
Q104	A6332530	Transistor, 2SC2668-O
Q105	A6332620	Transistor, 2SC2669-O
Q201	B0325335	IC, TA7342F
Q401	B0356885	IC, TA7688F
D001	A7289000	Diode, 1S2236
D101	22692017	Diode, KB269
D102	22115677	Diode, HP80-L
D103	22115677	Diode, HP80-L
D201	A8601000	Diode (LED), TLR121
		ELECTRICAL PARTS
Z001	22153231	Filter, Band Pass
Z101	22153233	Filter, Ceramic (TA, TC)
Z101	22153250	Filter, Ceramic (YY)
L001	22235215	RF Coil, FM
L002	22235214	Coil, Oscillator

Symbol No.	Part No.	Description
L003	22235216	RF Coil
L101	22291117	Coil, Choke, 10μH
L401	22291128	Coil, Choke, 1.2μH
L402, 403	22291128	Coil, Choke, 1.2μH
T101	22265837	IF Transformer
T102	22267380	IF Transformer
T103	22267381	IF Transformer
J401	22163861	Jack, Headphone, 3.5mm
S401, 402	22196078	Slide Switch, Band Select/Power
		CAPACITORS
		C = ±0.25pF, D = ±0.5pF, J = ±5%, K = ±10%, M = ±20%
		Z = 0 to +80%
		ABBREVIATIONS: EL = Electrolytic, CD = Ceramic Disk
		BL = Barrier Layer, PS = Polystyrene,
		TT = Tantalum
C001 a ~ b	22308562	Poly Variable
C002, 003	22309191	Trimmer
C004	22360416	CD, 3pF, 50V, C (Chip)
C005	22360413	CD, 1pF, 50V, C (Chip)
C006	22340133	CD, 0.01mfd, 50V, K (Chip)
C007	22360441	CD, 330pF, 50V, J (Chip)
C008	22340133	CD, 0.01mfd, 50V, K (Chip)
C009	22360423	CD, 10pF, 50V, D (Chip)
C010	22360672	CD, 4pF, 50V, D (Chip)

Symbol No.	Part No.	Description
C011	22360425	CD, 15pF, 50V, J (Chip)
C012	22360450	CD, 18pF, 50V, J (Chip)
C013	22360445	CD, 680pF, 50V, J (Chip)
C014	22340133	CD, 0.01mfd, 50V, K (Chip)
C016	22440554	EL, 1mfd, 50V
C017	22360435	CD, 100pF, 50V, J (Chip)
C101	22360366	CD, 0.001mfd, 50V, K
C102	22340129	CD, 0.001mfd, 50V, K (Chip)
C103, 104	22340133	CD, 0.01mfd, 50V, K (Chip)
C105	22340133	CD, 0.01mfd, 50V, K (Chip)
C106	22360366	CD, 0.001mfd, 50V, K
C107	22360604	BL, 0.01mfd, 25V, M
C108, 109	22360443	CD, 470pF, 50V, K (Chip)
C110	22340141	CD, 0.022mfd, 25V, K (Chip)
C111	22360604	BL, 0.01mfd, 25V, M
C112	22360435	CD, 100pF, 50V, J (Chip)
C113	22440276	EL, 10mfd, 16V
C114	22490003	TT, 22mfd, 3.15V
C115	22440532	EL, 0.47mfd, 50V
C116	22340141	CD, 0.022mfd, 25V, K (Chip)
C201, 202	22340134	CD, 0.015mfd, 50V, M (Chip)
C203	22380070	PS, 1000pF, 125V, J
C204	22440554	EL, 1mfd, 50V
C205	22440271	EL, 0.47mfd, 50V
C206	22440320	EL, 0.22mfd, 50V
C207	22440516	EL, 220mfd, 4V
C208	22440554	EL, 1mfd, 50V
C401, 402	22440554	EL, 1mfd, 50V
C403	22440517	EL, 100mfd, 4V
C404	22440562	EL, 22mfd, 6.3V
C405, 406	22490013	TT, 0.47mfd, 35V
C407, 408	22440517	EL, 100mfd, 4V
C409	22440528	EL, 470mfd, 4V
C410, 411	22340129	CD, 0.001mfd, 50V, K (Chip)
C412	22360441	CD, 330pF, 50V, J (Chip)
C413	22360441	CD, 330pF, 50V, J (Chip)
RESISTORS		
All resistors are carbon film 1/8W, ±5% unless otherwise noted. K = 1000		
R001	22501017	150 ohm (Chip)
R002	22501015	100 ohm (Chip)
R003	22531102	1K ohm (Chip)
R004	22531473	47K ohm (Chip)
R005	22501024	560 ohm (Chip)
R006	22531104	100K ohm (Chip)
R007	22501003	10 ohm (Chip)
R008	22550204	100K ohm
R009	22501033	3.3K ohm (Chip)
R010	22531102	1K ohm (Chip)
R101	22531473	47K ohm (Chip)
R102	22540502	220 ohm
R103	22540190	1K ohm
R104	22540214	100K ohm

Symbol No.	Part No.	Description
R105	22540507	560 ohm
R106	22501021	330 ohm (Chip)
R107	22570418	100K ohm, 1/16W
R108	22550173	220 ohm
R109	22570394	1K ohm, 1/16W
R110	22540531	56K ohm
R111	22550171	150 ohm
R112	22550180	820 ohm
R113, 114	22501034	3.9K ohm (Chip)
R115, 116	22531562	5.6K ohm (Chip)
R117	22540533	82K ohm
R118	22540507	560 ohm
R119	22540509	820 ohm
R120	22540501	180 ohm
R121	22540534	100K ohm
R201	22658654	10K ohm, Semi-fixed Variable
R202	22531102	1K ohm (Chip)
R203	22540522	10K ohm
R204	22550166	56 ohm
R205	22540187	560 ohm
R206	22570388	330 ohm, 1/16W
R207	22540504	330 ohm
R208	22540214	100K ohm
R401	22614402	20K ohm, Variable
R402, 403	22550223	2.2 ohm
ACCESSORIES		
AC01	22903446	Owner's Manual (E) (TA)
AC01	22903476	Owner's Manual (E) (TC)
AC01	22903505	Owner's Manual (F) (TC)
AC01	22903463	Owner's Manual (E) (YY)
AC01	22903464	Owner's Manual (D) (YY)
AC01	22903465	Owner's Manual (F) (YY)
AC01	22903466	Owner's Manual (H) (YY)
AC01	22903467	Owner's Manual (SW) (YY)
AC02	22991104	Carrying Case
AC03	22991100	Headphone Case (TA, YY)
AC03	22991105	Headphone Case (TC)
AC04	22941306	Poly Bag
AC05	22152124	Headphone (HR-M5B) (TC)
AC06	22810092	Ear Pad Set (TC)

10. EXPLODED VIEW (CABINET)

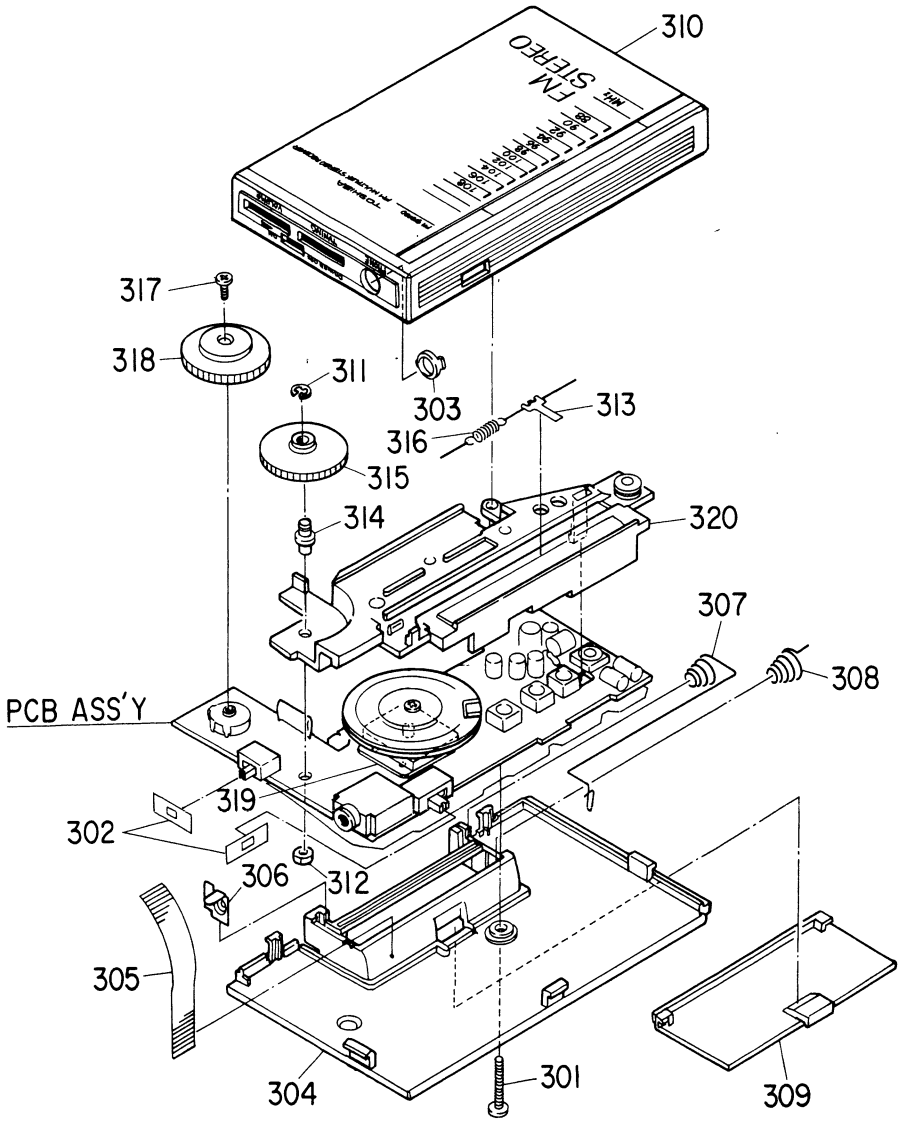


Figure 21.

11. PARTS LIST (CABINET)

Symbol No.	Part No.	Description
	CABINET PARTS	
301	22707863	Screw, 2ø x 10mm, BID
302	22753132	Cover, Switch
303	22875040	Cover, Jack
304	22822223	Cabinet Ass'y, Back (TA, TC)
304	22822226	Cabinet Ass'y, Back (YY)
305	25833327	Ribbon, Battery
306	22725251	Contact, Battery
307	25777145	Contact, Battery
308	25777146	Contact, Battery
309	22882005	Cover Ass'y, Battery
310	22825129	Cabinet Ass'y, Front

Symbol No.	Part No.	Description
311	22703117	E Ring, 1.5ø
312	22702188	Nut, 2ø
313	22741396	Pointer
314	22743310	Shaft, Tuning
315	22826382	Knob, Tuning
316	25776496	Spring, Dial
317	22707864	Screw, 1.4ø x 3mm
318	22826383	Knob, Volume
319	22866195	Sheet, Variable Capacitor
320	22718179	Chassis Ass'y

12. EXPLODED VIEW (HEADPHONE)

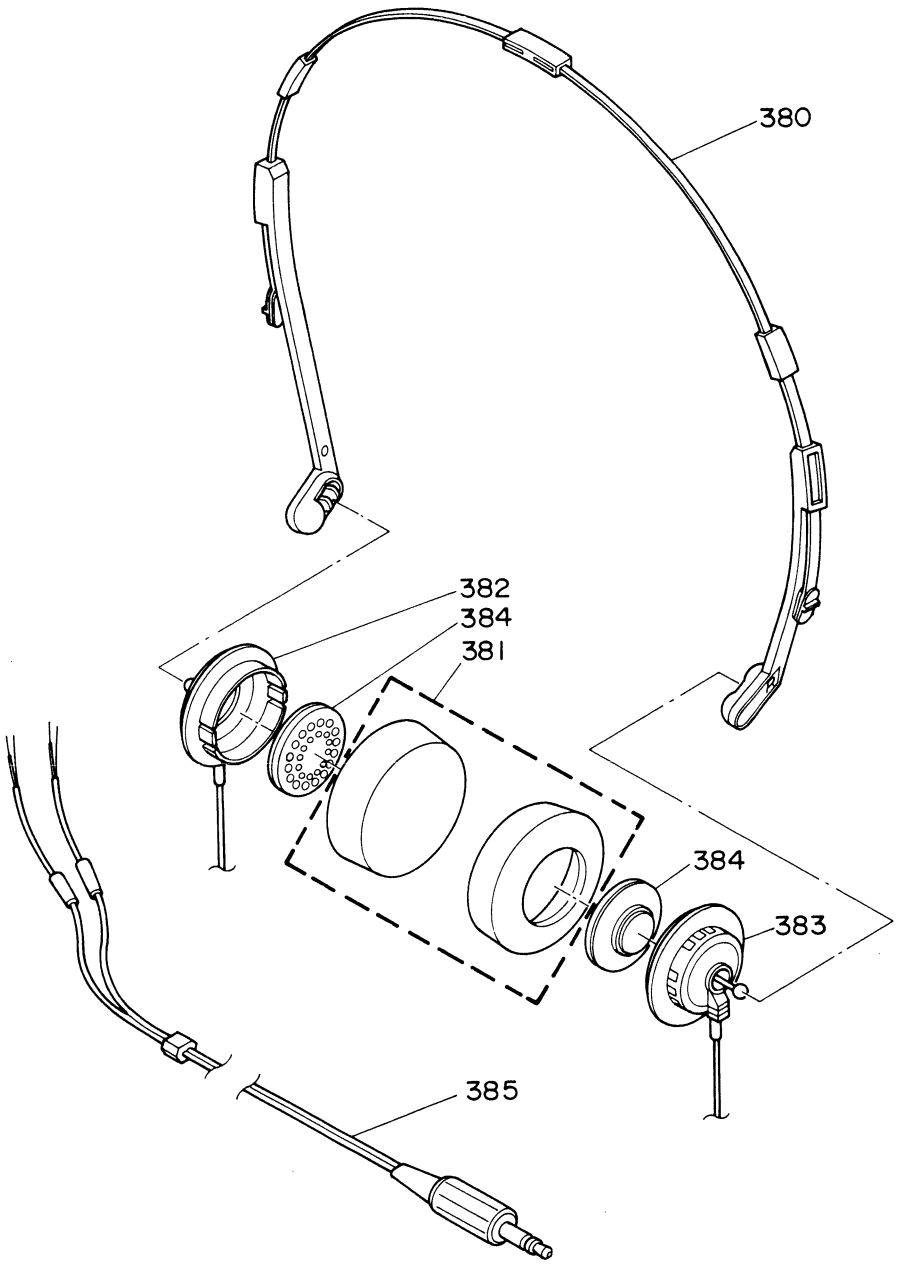


Figure 22.

13. PARTS LIST (HEADPHONE)

Symbol No.	Part No.	Description
380	22810086	Band Ass'y, Head (TA, YY)
381	22810087	Ear Pad Set (TA, YY)
382	22810088	Housing, Left (TA, YY)

Symbol No.	Part No.	Description
383	22810089	Housing, Right (TA, YY)
384	22810090	Driver Unit (TA, YY)
385	22810091	Cord With Plug (TA, YY)

SERVICE DATA
FILE NO. 153-184
SUPPLEMENT A

TOSHIBA

FM STEREO RECEIVER

RP-S5

This supplement pertains to RP-S5 which is a blue type for YY version.
Contents are as below.
1. Parts items which are additional and different from those for RP-S5 are listed.
2. Modifications made on original model RP-S5 are listed.

For other informations refer to the original SERVICE DATA for RP-S5, FILE No. 150-184.
Specifications stated in the original SERVICE DATA remain unchanged.

Service Information

1. ADDITIONAL PARTS

Symbol No.	Part No.	Description	Q'ty
	ELECTRICAL PARTS		
EP01	22192176	Sub. P.C. Board	1

Symbol No.	Part No.	Description	Q'ty
	CABINET PARTS		
304	22822252	Cabinet Ass'y, Back	1
309	22882012	Cover Ass'y, Ballery	1
310	22825206	Cabinet Ass'y, Front	1

2. MODIFICATION PARTS

	Changed From		
Symbol No.	Part No.	Description	Q'ty
D102	22115677	Diode, HP80-L	1
D103	22115677	Diode, HP80-L	1
C006, 008 014, 104 105	22340133	CD, 0.01mfd, 50V, K(Chip)	5
C102	22340129	CD, 0.001mfd, 50V, K(Chip)	1
C107, 111	22360604	BL, 0.01mfd, 25V, M	2
C110, 116	22340141	CD, 0.022mfd, 25V, K(Chip)	2
C203	22380070	PS, 1000pF, 125V, J	1
C410, 411	22340129	CD, 0.001mfd, 50V, K(Chip)	2
R113, 114	22501034	3.9K ohm (Chip)	2
C103	22340133	CD, 0.01mfd, 50V, K(Chip)	1
R102	22540502	220 ohm	1

	Changed To		
Symbol No.	Part No.	Description	Q'ty
D102	22115863	Diode, 1M60	1
D103	22115863	Diode, 1M60	1
C006, 008 014, 104 105	22353103	Chip, 0.01mfd, 25V, K	5
C102	22353102	Chip, 0.001mfd, 50V, K	1
C107, 111	22360713	BL, 0.01mfd, 16V, M	2
C110	22353223	Chip, 0.022mfd, 25V, K	2
C203	22380071	PS, 1000pF, 125V, J	1
C410, 411	22353102	Chip, 0.001mfd, 50V, K	2
R113, 114	22531392	3.9K ohm (Chip)	2

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